Facility: Mountain Longleaf National Wildlife Refuge
Title: Habitat Management Plan – Mountain Longleaf NWR

FINDING OF NO SIGNIFICANT IMPACT

For the reasons briefly presented below and based on an evaluation of the information contained in the supporting references enumerated below, I have determined that management activities described as the Preferred Alternative (Alternative 3) in the attached Environmental Assessment (sub-section II.C) at Mountain Longleaf National Wildlife Refuge is not a major Federal action which would significantly affect the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969. An Environmental Impact Statement will, accordingly, not be prepared.

Reasons:

1. **The refuge was established through congressional legislation to enhance and manage the unique longleaf pine resource on the former military installation.**

2. **There are no anticipated negative impacts to threatened and endangered species or other wildlife populations on the Refuge.**

3. **The preferred alternative represents the optimal ecological approach for successfully restoring refuge forests.**

Supporting References:

1. **Environmental Action Statement**
2. **Environmental Assessment**
3. **Cultural Resource Review**

Regional Director, FWS, Southeast Region

Date: 12/13/05

Distribution:
Wash., DC (OEC)
State Clearinghouse

UNITED STATES FISH AND WILDLIFE SERVICE

ENVIRONMENTAL ACTION STATEMENT

Within the spirit and intent of the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA), and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and determined that the action of implementing the Habitat Management Plan (HMP) for Mountain Longleaf National Wildlife Refuge, Calhoun County, Alabama

Check One:

____ is a categorical exclusion as provided by 516 DM 2, Appendix 1 and 516 DM 6, Appendix 1 section. No further NEPA documentation will therefore be made.

_X_ is found not to have significant environmental effects as determined by the attached environmental assessment and finding of no significant impact.

____ is found to have significant effects and, therefore, further consideration of this action will require a notice of intent to be published in the Federal Register announcing the decision to prepare an EIS.

____ is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.

____ is an emergency action within the context of 40 CFR 1 506.1 1. Only those actions necessary to control the immediate impacts of the emergency will be taken. Other related actions remain subject to NEPA review.

Signature Approval:

(1) Originator Refuge Manager Mountain Longleaf NWR	11/4/05 Date	(2) Regional Environmental Coordinator	11/29/05 Date
(3) Assistant Regional Director	12/12/05 Date	(4) Regional Director	12/13/05 Date

FINAL

ENVIRONMENTAL ASSESSMENT

Habitat Management Plan

Mountain Longleaf National Wildlife Refuge

Fort McClellan, Calhoun County, Alabama

U.S. Fish and Wildlife Service

November 2005

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I. PURPOSE AND NEED FOR ACTION

A. Introduction

The mission of the National Wildlife Refuge System is " to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans" (National Wildlife Refuge System Improvement Act of 1997). National Wildlife Refuges provide important habitat for native plants and many species of mammals, birds, fish, insects, amphibians, and reptiles. They also play a vital role in preserving endangered and threatened species. Refuges offer a wide variety of wildlife-dependent recreational opportunities and many have visitor centers, wildlife trails, and environmental education programs. Nationwide, about 30 million visitors annually hunt, fish, observe and photograph wildlife, or participate in educational and interpretive activities on refuges.

The Bob Stump National Defense Authorization Act for Fiscal Year 2003, P.L. No. 107-314, authorized the transfer, to the administrative jurisdiction of the Secretary of the Interior, 7,759 acres in order to establish Mountain Longleaf National Wildlife Refuge. P.L. No. 107-314 established that the primary purpose of Mountain Longleaf National Wildlife Refuge was to "enhance, manage, and protect the unique mountain longleaf pine ecosystem on the property." Additional management objectives given in P.L. No. 107-314 are to: 1) conserve and enhance populations of fish, wildlife, and plants in the refuge, including migratory birds and species that are threatened or endangered, with particular emphasis on the protection of the mountain longleaf pine plant ecosystem, 2) protect and enhance the quality of aquatic habitat in the refuge, 3) provide, in coordination with the Alabama Department of Conservation and Natural Resources, the public with recreational opportunities, including hunting, fishing, wildlife observation and photography, 4) provide opportunities for scientific research and education on land use and environmental law.

B. Background

The U.S. Fish and Wildlife Service (USFWS) has prepared a Habitat Management Plan (HMP) for Mountain Longleaf National Wildlife Refuge. HMPs are dynamic working documents that provide refuge managers a decision making process; guidance for the management of refuge habitat; and long-term vision, continuity, and consistency for habitat management on refuge lands. Each plan incorporates the role of refuge habitat in international, national, regional, tribal, State, ecosystem, and refuge goals and objectives; guides analysis and selection of specific habitat management strategies to achieve those habitat goals and objectives; and utilizes key data, scientific literature, expert opinion, and staff expertise

The statutory authority for conducting habitat management planning on National Wildlife Refuges is derived from the National Wildlife Refuge System Administration Act of 1966 (Refuge Administration Act), as amended by the National Wildlife Refuge Improvement Act of 1997 (Refuge Improvement Act), 16 U.S.C. 668dd - 668ee. Section 4(a)(3) of the Refuge Improvement Act states: "With respect to the System, it is the policy of the United States that -- (A) each refuge shall be managed to fulfill the mission of the System, as well as the specific purposes for which that refuge was established ..." and Section 4(a)(4) states: "In administering the System, the Secretary shall monitor the status and trends of fish, wildlife, and plants in each refuge." The Refuge Improvement Act provides the Service the authority to

establish policies, regulations, and guidelines governing habitat management planning within the System.

An HMP is a step-down management plan of the Refuge Comprehensive Conservation Plan (CCP). The CCP describes the desired future conditions of a refuge or planning unit and provides long-range guidance and management direction to achieve the purpose(s) of the refuge; helps fulfill the mission of the System; maintains and, where appropriate, restores the biological integrity, diversity, and environmental health of each refuge and the System; helps achieve the goals of the National Wilderness Preservation System, if appropriate; and meets other mandates. A CCP has not been accomplished on Mountain Longleaf National Wildlife Refuge and will not be completed for several years. At the time of CCP preparation, the HMP will be reexamined and appropriate information will be incorporated into the CCP.

HMPs comply with all applicable laws, regulations, and policies governing the management of National Wildlife Refuge System. The lifespan of an HMP is 15 years and parallels that of refuge CCPs. HMPs are reviewed every 5 years utilizing peer review recommendations, as appropriate, in the HMP revision process or when initiating refuge CCPs. Annual Habitat Work Plans (AHWP) will contain specific management objectives to be completed in support of the Refuge HMP.

C. Comments to Draft EA.

The Draft EA was available for public review and comment for a 48-day period from August 4 to September 20, 2005. Copies of the Draft EA and HMP were available on the Refuge website and on request from Mountain Longleaf NWR Headquarters. The following comments were received.

Comment 1: How are funding priorities set for refuges, such as Mountain Longleaf, where negative and irreversible changes to the natural environment are expected without management? While the ecosystem on the MLNWR will change to hardwood without management, most other refuges will not be irreversibly changed or harmed if funding is reduced. Does a refuge that requires management to maintain its ecological significance receive priority funding over others that require less management?

Response: The HMP describes the management program that we believe is necessary to restore and maintain the longleaf ecosystem on the Refuge. Funding for accomplishing program objectives is beyond the scope of the HMP.

Comment 2: Unlike most refuges that are managed to enhance wildlife values, Mountain Longleaf NWR was established by Congress to protect and restore longleaf pine forests that were maintained through Army wildfires. How will the US Fish and Wildlife Service meet legislated obligations stated in the plan with only two personnel on the refuge?

Response: The HMP describes an ecological restoration program that is intended to restore the longleaf ecosystem. While army wildfires were responsible for maintaining these forests through the 20th Century, studies have indicated that the number and frequency of fires were inadequate for long-term survival of the forests. The longleaf forest will be structurally restored and frequent recurring fire will be reintroduced into the forest system. Once restored, the forest will be maintained through a continuing prescribed fire program. The USFWS will and has already called upon personnel from other agencies and refuges to assist in accomplishing prescribed burning requirements. The near-term use of these resources is anticipated to be adequate in accomplishing program goals.

Comment 3: Under biological integrity mandates in refuge legislation (integrity, diversity and health), are refuges, such as Mountain Longleaf, given special or priority consideration because of their unique ecological contributions to the refuge system?

Response: Refuge legislation (National Wildlife Refuge Improvement Act of 1997) and USFWS Ecological Integrity Policy were critical elements in formulating management goals and objectives in the HMP. USFWS Policy Management Standards on biological integrity identify the importance of reestablishing historic ecosystem conditions that existed prior to substantial human related changes to the landscape. The HMP is directed at reestablishing these conditions on the Refuge by restoring longleaf forests that can be maintained through prescribed burning. Federal appropriations and USFWS funding allocation priorities that will affect our ability to meet these objectives are beyond the scope of the HMP.

Comment 4: Because old-growth forests on the refuge are unique, few examples of established proven management exist for this forest age class. What efforts are taken to assure that the best and most effective management programs are implemented, and that management techniques avoid harmful effects to old-growth trees?

Response: Refuge staff attend and provide presentations at restoration conferences and regional workshops to ensure that proper techniques are used in refuge forests. Longleaf research and management experts are invited to the Refuge, and recommended management options and methods from other locations are carefully considered in designing refuge programs. The HMP is based on an adaptive management approach. Lessons learned here and at other locations will be an important part of all future management decisions.

Comment 5: Seepages are described in the plan as having burned occasionally in the past, but as now, they are changing into a hardwood forest. As an example, the orchid population is in decline. How are these perennially wet areas going to be prescribed burned, and how will the Section 7 obligations be met?

Response: Spring Seepages usually exist as an inclusion within the longleaf pine ecosystem. These wetland habitats have experienced recurring fire at greater intervals than the surrounding forest. Because they remain wet or moist most of the year, they only have the opportunity to burn during drought periods of the year. The biology of seeps is presented in Section 3.1.5 of the HMP, while proposed management prescriptions are presented in Section 5.0 under Goal 8. The most probable prescription involves prescribe burning seeps during late summer drought periods within burn units that were prescribed burned earlier the same year. The area surrounding seeps would have an extremely low fuel load and would allow a small prescribed burn within the unit during extreme weather conditions. All actions within suspected or known habitat for the white-fringeless orchid will be coordinated with Ecological Services to ensure protection and benefit to the candidate orchid.

D. Proposed Action

The Refuge Vision broadly reflects the reason for establishing the refuge, based on both legislated and planning purposes and objectives. The vision statement is as follows:

Mountain Longleaf National Wildlife Refuge will be managed to maintain and restore a naturally regenerating mountain longleaf pine ecosystem, along with providing educators, research scientists, and the public with a broad range of opportunities to appreciate and enjoy a rare and disappearing southern forest type.

The presence of the best remaining example of a fire maintained mountain longleaf pine ecosystem is recognized as the primary factor for selecting the area as a National Wildlife Refuge. With closure of the base in 1998, military related wildfires disappeared and longleaf pine forests no longer experienced recurring wildfires. Without implementation of an active restoration program, these forests were expected to slowly evolve into a more hardwood dominated forest community. To meet the primary purpose of preserving and enhancing the longleaf pine ecosystem, management goals and subsequent management objectives were directed at maintaining and restoring forest health to the fire adapted mountain longleaf pine ecosystem. All goals and objectives were designed and evaluated according to their ecological benefit and their relationship to recurring fire. Where protective or mitigative measures are considered necessary to ensure the survival of a species or community type, they were identified and incorporated into management strategy.

Refuge forests represent a unique opportunity for scientists to manage and restore a mountain longleaf pine ecosystem. Unlike management scenarios on other lands, refuge forests are relatively intact with restoration primarily involving prescribed fire along with structural modifications to the existing forest. Site preparation and replanting are expected to be minor components of long-term management strategies. An overall factor of minimizing disturbance and alteration within this forest system is considered important to maintaining natural community structure and species composition. Because these forests have evolved from a site seed source through natural regeneration, efforts will be taken to minimize changes to this natural process.

Refuge Environmental Setting and Background (Section 2.0) and Resources of Concern (Section 3.0) can be found in the HMP.

The following management goals were designed to meet refuge establishment purposes and define general targets in support of the Refuge Vision.

- GOAL 1 - Provide an ecosystem management strategy that restores and maintains the mosaic cover of longleaf pine forest;

- GOAL 2 - Maintain fire adapted longleaf pine and associated communities through prescribed burning to approximate conditions occurring in presettlement forests;

- GOAL 3 – Structurally restore the longleaf pine community, where possible, to a condition that can be maintained through prescribed burning;

- GOAL 4 – Restore a natural forest cover on army ranges and open areas that were cleared by the military;

• GOAL 5 - Manage high elevation, wetland, streamside and hardwood forests as a component of the mountain longleaf pine ecosystem;

• GOAL 6 – Manage the refuge as an ecological unit within a larger forested landscape connected to the Southern Appalachian Mountains;

• GOAL 7 - Minimize fragmentation and opening of refuge forest landscape and, where possible, restore forest connections to provide forest interior habitat for neotropical birds and wildlife;

• GOAL 8 - Manage and protect sensitive headwater seep wetlands and bogs as part of the mountain longleaf pine landscape;

• GOAL 9 - Inventory, protect and manage rare, endangered, threatened and sensitive species and natural communities as part of the mountain longleaf pine ecosystem;

• GOAL 10 - Inventory and control exotic and invasive species, and maintain the integrity of the native mountain longleaf pine ecosystem.

• GOAL 11 – Maintain and restore native wildlife populations associated with longleaf pine and other refuge natural communities.

• GOAL 12 – Maintain an adequate firebreak system that fulfills management and public use needs, while minimizing adverse ecological effects on the natural landscape.

II. ALTERNATIVES INCLUDING THE PROPOSED ACTION

The assessment of management options was evaluated through the following three alternatives. The HMP includes Habitat Management Strategies and Objectives (Section 5.0) for all three alternatives. The primary difference between alternatives involves treatment applications for restoring and managing longleaf pine forests.

Alternative 1 (No Action - Protection of Natural Resources – Goals 5-9)
Alternative 2 (Prescribed Burn and Protection of Natural Resources – Goals 2, 12, 5-9)
Alternative 3 (Preferred Alternative – Implementation of HMP – Goals 1-12)

A. Alternative 1: No Action - Protection of Natural Resources

Under this alternative, natural resources and wildlife are given protection (Goals 5-9), but active longleaf pine ecosystem management and restoration programs on the refuge are not implemented. Existing natural communities are allowed to proceed through natural succession. This alternative represents an environmental change from army ownership and historic conditions where wildfires frequently occurred and significantly influenced forest structure.

B. Alternative 2: Prescribed Burning and Protection of Natural Resources

In addition to protecting refuge natural resources (Goals 5-9), prescribed burning will be applied to all forest lands containing or suspected to have originally contained longleaf pine (Goals 2, 12). This is expected to involve from seven to nine thousand acres on the refuge. Growing season prescribed burning will first be applied to control hardwood and shrub encroachment. If stands are restored, burning will be seasonally varied and occur on a 2-3 year interval. This alternative more closely approximates army ownership where wildfires frequently occurred over parts of the military installation. Prescribed fire however will reduce fuel loads and establish a more consistent and frequent burning cycle that will eliminate high intensity damaging wildfires that occur at longer intervals and during drought conditions. Light intensity prescribed burning however is not expected to restore closed canopy or understocked stands.

C. Alternative 3: Preferred Alternative – Habitat Management Plan

Under the preferred alternative, the USFWS will implement longleaf pine structural management techniques (Goals 1, 3, 4), control of invasive plants (Goal 10) and design active wildlife management applications (Goal 11), in addition to prescribed burning (Goals 2, 12) and protection of natural resources (Goals 5-9).

Once longleaf pine structural restoration has been accomplished, long-term management is expected to rely on prescribed burning. Structural restoration will be accomplished through three approaches; control of hardwood-pine encroachment in longleaf pine stands, removal of invasive trees on disturbed areas and plantations, and replanting of understocked longleaf pine stands. Control of hardwood pine encroachment and removal of invasive trees on disturbed areas will require midstory treatments and/or the selective removal of overstory trees. Restoration techniques include mechanical removal, girdling or chemical injection, and the selective harvest of unwanted hardwoods and pines. In some situations, timber harvest contracts may be feasible. Replanting of understocked stands will require the clearance of loblolly plantations (50 acres) and the supplemental planting of seedlings in existing poorly stocked longleaf pine stands. Several years of prescribed burning will provide additional information concerning those areas that cannot be restored through prescribed burning, or fail to exhibit adequate seedling recruitment.

Invasive plants (Goal 10) will be controlled though mechanical measures or the application of herbicides. Examples of invasive species on the refuge include kudzu, weeping lovegrass, Chinese privet and Japanese stilt grass. Wildlife management programs (Goal 11) involve habitat improvement for native wildlife species.

Alternative 3 as described in the HMP was selected as the preferred alternative. Without an active management program that includes both fire and structural modifications to the forest, a natural fire maintained longleaf pine community cannot be restored. Hardwoods have progressed to an age in many stands where they are now relatively resistant to fire. To meet refuge establishment objectives to " enhance, manage and protect the unique mountain longleaf pine ecosystem", the HMP must first implement aggressive restoration measures to establish forest community structure that can me maintained by fire.

III. AFFECTED ENVIRONMENT

This section describes the environment that is affected by the three alternatives. A detailed description of the natural, social and cultural environment on the refuge can be found in the HMP (Sections 2.0 and 3.0). Background literature (Section 7.0) and scientific names are also provided in the HMP. The following sections provide an overview of resources located on the refuge.

A. General

Mountain Longleaf National Wildlife Refuge is located in Calhoun County in northeastern Alabama. It is contiguous to the City of Anniston, and lies approximately 65 miles east of Birmingham and 90 miles west of Atlanta (Figure 1). The 7,759 acre refuge was legislatively established on May 31, 2003 within the former military training base of Fort McClellan. On October 23, 2003, an additional 1,257 acres were contributed by the Calhoun County Joint Powers Authority (JPA) for the current total of 9016 acres (Figure 2).

B. Vegetation

The refuge was established to protect and manage one of the finest remaining examples of mountain longleaf pine forest. This forest type is primarily located along the western and lower slopes of Choccolocco Mountain. Forest communities on the refuge include upland pine, upland hardwood, lowland hardwood and hardwood seepage.

Upland pine communities include longleaf, shortleaf (mixed with longleaf on slightly more fertile soils), loblolly (disturbed or fire suppressed areas) and Virginia pine forests (higher elevations). Upland hardwoods vary in species composition but are usually dominated by oaks and hickories. Typically they are located on upper slopes and ridgetops along Choccolocco Mountain. Lowland hardwoods exist as a narrow border along larger streams and as upland borders around larger springs and seepages. This community is often co-dominated by trees such as oaks, hickories, tulip poplar, beech, basswood, and chalk maple. Hardwood seepages are minor in acreage but support a unique biological community and are located along the base of Choccolocco Mountain.

Rare species documented on the refuge and included within the Nature Conservancy's Tracking List (ANHP 2004) include sky-blue aster (high elevation slopes), ground juniper (southern range extension), Fraser's loosestrife (spring seepages), rose gentian (upland border of seepages) and flat-topped hawthorn (limestone outcrops).

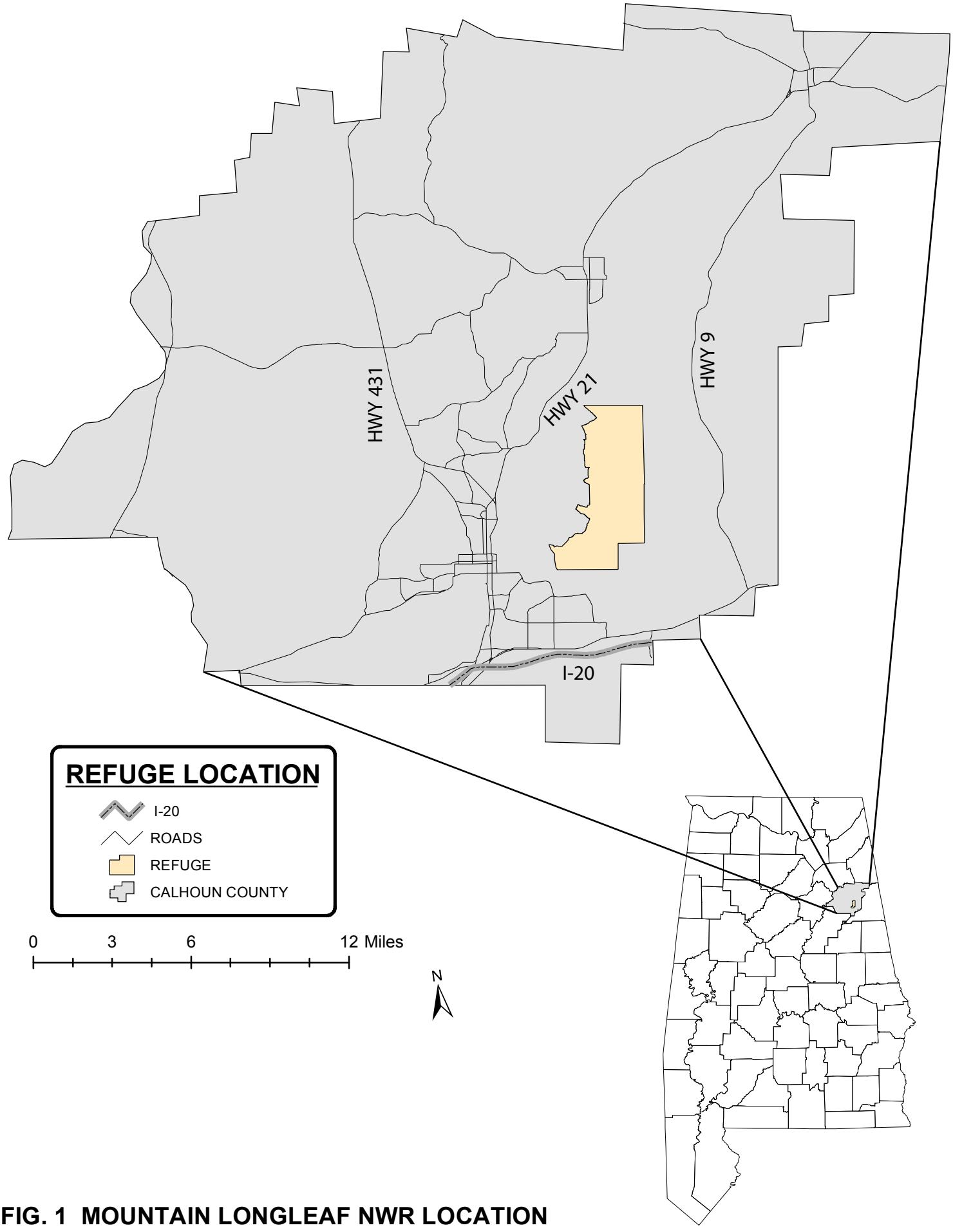

FIG. 1 MOUNTAIN LONGLEAF NWR LOCATION

MOUNTAIN LONGLEAF NATIONAL WILDLIFE REFUGE

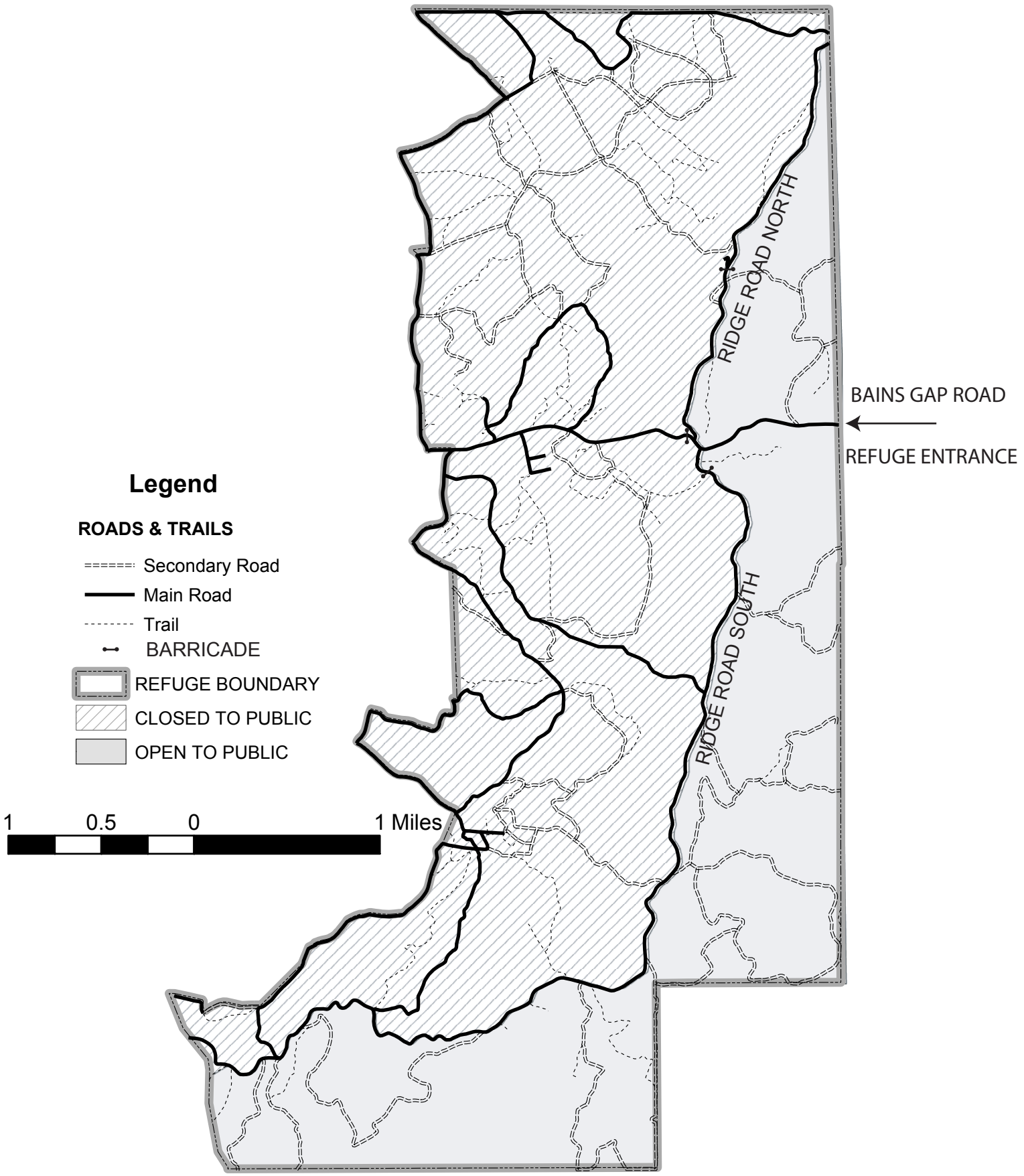

FIG. 2 REFUGE AREA

C. Wildlife Resources

The refuge contains a rich diversity of wildlife and habitat types. Eighty-seven species of reptiles and amphibians potentially inhabit the refuge. Studies of hardwood forests on the refuge have identified the area as important to many forest interior neotropical migratory birds (Soehren 1995; Keyser et al. 1998). Recent studies in longleaf pine forests on the refuge have further documented the presence of many birds associated with grassland and shrub habitats, a community type rapidly disappearing in the Southeast. Restoration of fire-suppressed longleaf pine forests is expected to significantly benefit this guild of birds.

Fifty-one species of mammals are suspected to inhabit the refuge. Some of the more significant species that are found on the Nature Conservancy's Tracking List (ANHP 2004) include Appalachian cottontail (high elevation thickets), eastern fox squirrel (open longleaf pine forests), black bear (transient), and worm-eating warbler (unfragmented deciduous forest).

The recently completed Cumberlands and Southern Ridge and Valley Biodiversity Plan (TNC 2003) provides a landscape scale planning document for selecting and protecting areas of high biodiversity in the Southeast. The study area extends along the Appalachian Mountains from Alabama to Virginia and West Virginia. The plan selected 160 terrestrial conservation target areas, with 29 areas designated as high priority action sites. The Talladega Mountains, which includes the refuge, comprises one of the high priority biodiversity action sites.

D. Endangered Species

With the decision to close Fort McClellan in 1995, the Army prepared and submitted a Biological Assessment (BA) to the U.S Fish and Wildlife Service on endangered and threatened species listed under the Endangered Species Act of 1973 (USCOE 1998). The BA identified area streams as foraging habitat for the endangered gray bat and the historical presence of the endangered red-cockaded woodpecker in pine forests within the mountains. Streams within the refuge portion of Fort McClellan however were considered low quality foraging habitat and provide little or no value to foraging gray bats. The red-cockaded woodpecker historically was found within refuge forests but has not been recorded on refuge lands since 1968. With restoration efforts and improving habitat, woodpeckers could be reintroduced or pioneer to the refuge from existing clusters in the adjacent Talladega National Forest at some future time.

A single Candidate Species, white-fringeless orchid, has been recorded on the refuge. This orchid has been found in spring seepages in the upper reaches of North Branch Cane Creek and Cave Creek.

Management applications that potentially affect listed and Candidate Species will undergo Section 7 Consultation with Ecological Services, Daphne, Alabama.

E. Wetlands

Steep mountain ridges and slopes limit the types and extent of wetlands on the refuge. Springs and associated seepages comprise the primary wetland type that exists on the refuge. Most, but not all, are located along the base of Choccolocco Mountain. While some are seasonal, the larger more significant wetlands are perennial and up to 7 acres in size. Studies commissioned by the Army identified 23 areas on the Refuge that meet the jurisdictional definition of wetlands in the 1987 Army Corps Manual.

D. Aquatic Resources

The refuge is located in the headwaters of several streams that originate along the base or slopes of Choccolocco Mountain. These streams include South Branch Cane Creek, North Branch Cane Creek, Cave Creek and Bain's Gap Creek. All streams within the refuge boundaries are small perennial or ephemeral streams.

E. Socioeconomic and Land Use Conditions

The general socioeconomic conditions of Anniston, Fort McClellan and Calhoun County are described in the Refuge Establishment EA (USFWS 2003).

F. Cultural Resources

Section 106 of the National Historic Preservation Act of 1966, as amended, and Section 14 of the Archeological Resources Protection Act require the Service to evaluate the effects of any of its actions on cultural resources (historic, architectural and archeological) that are listed or eligible for listing in the National Register of Historic Places (NRHP). The Army contracted to have the entire military installation, to include refuge lands, surveyed for cultural resources. The results of these surveys have been submitted to the State of Alabama's Historic Preservation Office and are available through that agency. Seventeen cultural resource sites have been identified on the refuge as possessing the necessary attributes to make them eligible for inclusion on the NRHP (U.S. Army 2003). A map of the sites is maintained in the Refuge Headquarters and all sites are protected through avoidance criteria.

IV. ENVIRONMENTAL CONSEQUENCES

This section analyzes and discusses the potential impacts of the three alternatives described in Section II.

The 1997 National Wildlife Refuge System Improvement Act firmly established that wildlife conservation takes priority on National Wildlife Refuges. It established a framework for ensuring refuge uses are compatible with the mission of "conservation, management, and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats". The Ecological Integrity Provision of the Act further requires refuges to "ensure that the biological integrity, diversity and environmental health of the System are maintained". Subsequent Integrity Policy established that, in accordance with Refuge Purpose, the highest measure of biological integrity, diversity, and environmental health can be achieved through restoration and management of historic landscape cover. The legislated purpose of establishing Mountain Longleaf National Wildlife Refuge was "to enhance, manage, and protect the unique mountain longleaf pine ecosystem on the property" with the Preferred Alternative clearly meeting mandates to manage and restore the historic forest cover on the refuge.

Existing forests on the refuge range from open fire maintained to severely fire-suppressed. The majority of refuge forests are considered fire-suppressed. When hardwoods and shrubs have reached an age where bark thickens, they can no longer be controlled through light-moderate intensity prescribed burning. The ground cover of these areas can be burned, but the closed canopy overstory inhibits the formation of an herbaceous ground cover and prevents longleaf pine seedling regeneration. Without an open forest and

sunlight reaching the ground layer, the forest will fail to regenerate new seedlings or a ground cover that can carry light intensity fires. Eventually plant succession will proceed with older established longleaf pines dying and hardwoods comprising the entire forest. At this point in time, the longleaf pine forest ceases to exist and the forest can be reclassified as an upland hardwood forest community. Regional forest inventories have documented these losses within Alabama's Blue Ridge-Talladega Mountain Province (Parresol and McCollum 1997). Between 1972 and 1990, there was a 75 percent regional loss of longleaf pine forest with a tripling of oak-hickory forest and a doubling of loblolly-shortleaf forest.

Alternatives 1 and 2 fail to meet the biological requirements of restoring longleaf pine ecosystem as well as refuge establishment objectives to "enhance, manage and protect the unique mountain longleaf pine ecosystem". While Alternative 2 includes a prescribed burning program, most longleaf pine forests on the refuge are fire-suppressed and have successionally evolved beyond a point where low intensity fire alone can restore the forest.

The preferred alterative involves management procedures and techniques (Goals 1, 3, 4) not included in other alternatives. The primary difference between Alternative 3 and previous alternatives is the addition of structural modifications to fire suppressed longleaf pine forests. Longleaf pine forests evolved more as a savannah then a forest, and require open sunlight for seedling establishment and an herbaceous ground cover that will carry light to moderate intensity ground fires.

The preferred alternative includes measures to control invasive plants on the refuge. While most invasive plants can be found along roadways and disturbed former army training sites, they do represent a threat to natural forests and, in particular, wetland and seepage areas. Control of existing invasive populations and the elimination of a refuge seed source will reduce the potential for the spread of these plants to more natural areas on the refuge. Individual proposals for herbicide treatment will be coordinated under Section 7 of the Endangered Species Act with Ecological Services, Daphne, Alabama. Any recommendations to eliminate or reduce adverse effects from these actions will be included in final management treatments.

Wildlife management applications are also included in the preferred alternative. Most efforts will focus on projects that benefit species associated with longleaf pine forest restoration. Many of the plants and animals dependant on this savannah grassland habitat are rare and declining in the region. As habitat improves, many of these species are expected to increase in numbers, and provide recreational and ecological benefits to the refuge. Examples of species that will be managed and studied under this scenario include wild turkey, bobwhite, Bachman's sparrow and eastern fox squirrel.

The natural longleaf pine fire climax forest exists as an all age forest of small overlapping even age stands (Varner et al. 2000). The complexity of gap regeneration over many years (50-300 years) provides an impression of an all aged forest. This visual perspective fails to communicate the reality of longleaf pine regeneration in a natural fire maintained stand. Small single tree mortality or isolated pockets of disturbances create small openings allowing sunlight to reach the forest floor. Only in these situations can new seedlings become established. Any restoration efforts within fire suppressed stands must therefore consider several criteria to meet success; (1) an adequate longleaf pine overstory or seedling stocking level, (2) a long-term prescribed fire program, and (3) control of hardwood encroachment that opens the overstory and allows sunlight to reach the forest floor. Only the preferred alternative or HMP meets all objectives and establishes conditions that eventually can assure the presence of a longleaf pine forest that can be maintained through recurring prescribed fire.

The ecological significance of refuge forests exists not only because of forest age and fire history, but also because of the integrity of forest soils. The most difficult aspect of longleaf pine ecosystem restoration involves restoring or reestablishing the highly diverse herbaceous ground layer. The intact condition of this layer is a critical component of longleaf pine ecosystem restoration (Walker 1999; Outcalt and Sheffield 1996; Engstrom 2003). It is this natural ground cover that has evolved to carry low intensity fire through the forest ecosystem, and provide the biological diversity characteristic of this disappearing forest type. All management techniques are therefore designed to minimize intrusive disturbance to existing intact forest soils. Heavy equipment and activities that cause widespread disturbances will be minimized to retain the soil structure and characteristics that enhance restoration success.

V. INFORMATION ON PREPARERS

This document was prepared by Bill Garland, USFWS, Mountain Longleaf National Wildlife Refuge, Fort McClellan, Alabama

VI. SUMMARY OF PROPOSED ACTION

As previously described, the Service proposes to implement a Habitat Management Plan for Mountain Longleaf National Wildlife Refuge. This is the only alternative that biologically restores the longleaf pine ecosystem to a condition that can be maintained through a prescribed burning program. An analysis of three alternatives included:

Alternative 1: No Action - Protection of Natural Resources – Goals 5-9

Alternative 2: Prescribed Burning and Protection of Natural Resources – Goals 2, 12, 5-9

Alternative 3: Preferred Alternative- Implementation of Habitat Management Plan – Goals 1-12

An analysis of potential environmental and cultural resource impacts concludes that no significant adverse impacts are anticipated through implementation of the Preferred Alternative- Alternative 3. Alternatives 1 and 2 however would result in significant adverse environmental consequences by failing to establish conditions where the longleaf pine forest can be restored and than maintained through a long-term prescribed fire program.

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UNITED STATES FISH AND WILDLIFE SERVICE

ENVIRONMENTAL ACTION STATEMENT

Within the spirit and intent of the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA), and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and determined that the action of implementing the Habitat Management Plan (HMP) for Mountain Longleaf National Wildlife Refuge, Calhoun County, Alabama

Check One:

____ is a categorical exclusion as provided by 516 DM 2, Appendix 1 and 516 DM 6, Appendix 1 section. No further NEPA documentation will therefore be made.

_X_ is found not to have significant environmental effects as determined by the attached environmental assessment and finding of no significant impact.

____ is found to have significant effects and, therefore, further consideration of this action will require a notice of intent to be published in the Federal Register announcing the decision to prepare an EIS.

____ is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.

____ is an emergency action within the context of 40 CFR 1 506.1 1. Only those actions necessary to control the immediate impacts of the emergency will be taken. Other related actions remain subject to NEPA review.

Signature Approval:

_____	_____	_____	_____
(1) Originator Refuge Manager Mountain Longleaf NWR	Date	(2) Regional Environmental Coordinator	Date
_____	_____	_____	_____
(3) Assistant Regional Director	Date	(4) Regional Director	Date

Facility: **Mountain Longleaf National Wildlife Refuge**
Title: **Habitat Management Plan – Mountain Longleaf NWR**

FINDING OF NO SIGNIFICANT IMPACT

For the reasons briefly presented below and based on an evaluation of the information contained in the supporting references enumerated below, I have determined that management activities described as the Preferred Alternative (Alternative 3) in the attached Environmental Assessment (sub-section II.C) at Mountain Longleaf National Wildlife Refuge is not a major Federal action which would significantly affect the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969. An Environmental Impact Statement will, accordingly, not be prepared.

Reasons:

1. The refuge was established through congressional legislation to enhance and manage the unique longleaf pine resource on the former military installation.

2. There are no anticipated negative impacts to threatened and endangered species or other wildlife populations on the Refuge.

3. The preferred alternative represents the optimal ecological approach for successfully restoring refuge forests.

Supporting References:

1. Environmental Action Statement
2. Environmental Assessment
3. Cultural Resource Review

_____
Regional Director, FWS, Southeast Region

Date: _____

Distribution:
Wash., DC (OEC)
State Clearinghouse